

2007 HHS PHEMC  
Enterprise Stakeholders Workshop

## National Institutes of Health's CBRN Medical Countermeasure Activities

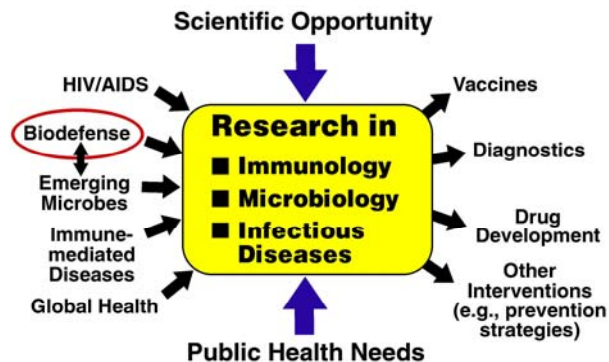
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Director

National Institute of Allergy and Infectious  
Diseases

National Institutes of Health  
July 31, 2007



## National Institute of Allergy and Infectious Diseases (NIAID) National Institutes of Health (NIH)



## NIAID Infectious Disease Research: A Dual Mandate

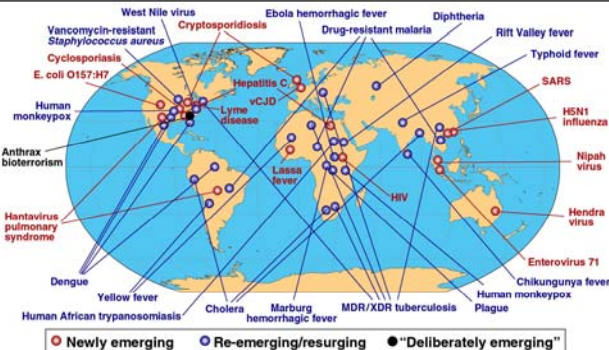
Maintain and "grow" a  
robust basic and clinical  
research portfolio in  
microbiology, infectious  
diseases and  
immunology

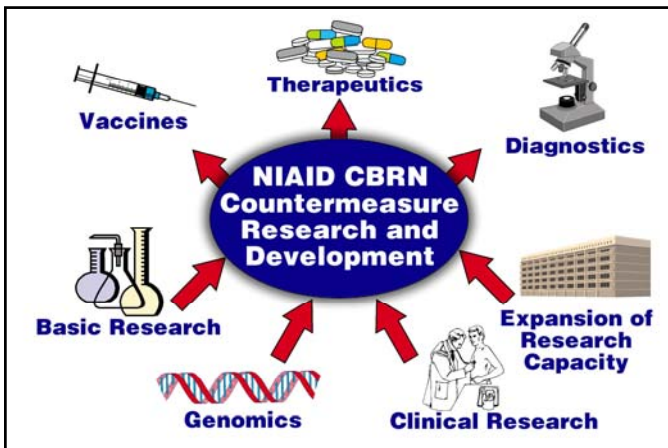


Respond rapidly to  
new infectious  
disease threats

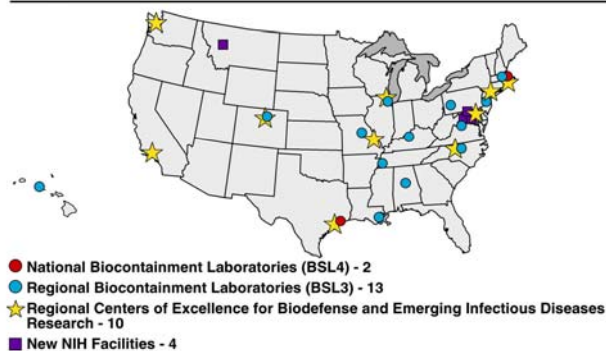
New/Improved Countermeasures

## Global Examples of Emerging and Re-Emerging Infectious Diseases

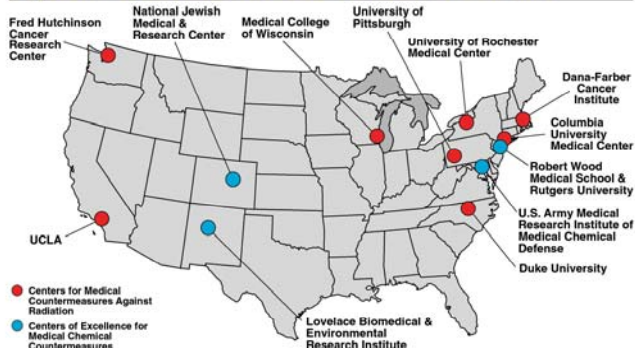




## Expansion of Biodefense Research Capacity



## Centers of Excellence for Medical Countermeasures Against Radiological and Chemical Threats



U.S. Department of Health and Human Services  
**NIH News**  
 National Institutes of Health  
 FOR IMMEDIATE RELEASE  
 Wednesday, May 3, 2006  
 National Institute of Allergy and Infectious Diseases (NIAID)  
<http://www.niaid.nih.gov/>

## NIH Dedicates the C.W. Bill Young Center for Biodefense and Emerging Infectious Diseases



A new building focused on research on infectious diseases of global importance — those that occur naturally or that may be caused by agents intentionally released through an act of bioterrorism — was dedicated yesterday on the Bethesda, Maryland campus of the National Institutes of Health (NIH).

## Rocky Mountain Laboratories Integrated Research Facility



- Construction is 99% complete
- Occupancy anticipated late 2007
- 105,000 gross square feet (47,000 net)
- BSL-2, BSL-3 and BSL-4 laboratory space

## NIAID Integrated Research Facility at Fort Detrick, Frederick, MD



- Construction is 60% complete
- Occupancy anticipated September, 2008
- 146,000 gross square feet (51,000+ net)
- BSL-2 and BSL-4 laboratory space



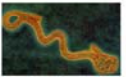
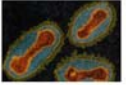
### **NIAID Regional Biocontainment Laboratory: Duke Global Health Research Building, Durham, NC**



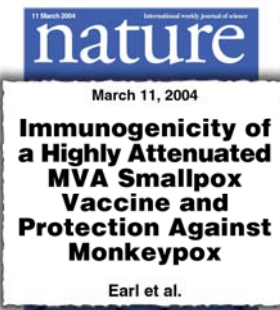
- Construction completed in February 2007
- 32,375 gross square feet (17,040 net)
- BLS-2 and BSL-3 laboratory space

### **Biodefense Countermeasures: Selected Advances**

- **Smallpox**
  - Dryvax; MVA; therapeutics (ST-246)
- **Anthrax**
  - rPA; post-exposure vaccination; therapeutics (antitoxins)
- **Ebola**
  - First- and second-generation vaccines; therapeutics (RNA interference)



### **Development and Procurement of Next- Generation Smallpox Vaccine**



### **NIH Biodefense Research**

- **Short-Term (0-2 years)**
  - Anthrax monoclonal antibody therapy
  - Oral smallpox therapeutic
- **Mid-Term (2-5 years)**
  - Ebola therapeutic utilizing RNA interference
  - First generation multi-agent filovirus vaccine candidate
  - Multiplexed adaptive diagnostic systems
  - Broad spectrum antimicrobial

### **NIH Biodefense Research**

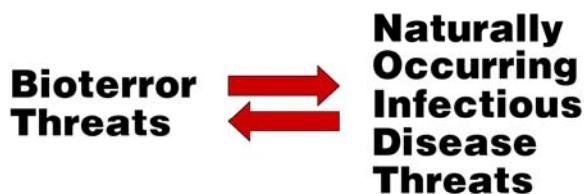
- **Long-Term (>5 years)**
  - Broad spectrum therapeutic platforms
  - Multivalent vaccine platforms
  - Immune-enhancement strategies
  - Range of monoclonal antibody therapies

### **NIH Rad-Nuc Countermeasures Progress**

- **8 Centers for Medical Countermeasures against Radiation**
  - Focus on biodosimetry
  - Agents to prevent, mitigate, and treat radiation injury
- **Product Development Infrastructure Support**
- **Interagency Agreements with AFRRI and NCI**

## NIH Chemical Defense Countermeasures Progress

- Robust research & development pipeline
  - New drugs and diagnostics
  - Civilian use of military medical products
- NIH “CounterACT” Program (Countermeasures Against Chemical Threats) started in 2006
  - Establishment of 4 Research Centers of Excellence
  - Awards of > 23 research grants & contracts
- Research partnership (IAA) with U.S. Army



## Influenza Highlights

### Basic Research

- Genomic sequencing: ~2000 isolates released to GenBank
- Interface between avian and human influenza

### Diagnostics

- Utilizing new technologies for rapid and sensitive identification (e.g., MChip)

### Therapeutics

- Maximizing potential use of existing drugs
- Developing new antivirals

### Pre-Pandemic and Pandemic Vaccines

- New strategies/technologies to improve existing vaccines
- Development of strain-specific and “universal” pandemic vaccines

## Bridging the Gap

